* CHAPTER 14. SIMPLIFIED DIRECTIONAL FACILITIES (SDF) PROCEDURES

1400. GENERAL. This chapter applies to approach procedures based on Simplified Directional Facilities (SDF). "SDF" is a directional aid facility providing only lateral guidance (front or back course) for approach from a final approach fix.

1401.-1409. RESERVED.

1410. FEEDER ROUTES. Criteria for feeder routes are contained in paragraph 220.

1411. INITIAL APPROACH SEGMENT. Criteria for the initial approach segment are contained in Chapter 2, Section 3 (see also Figures 44 and 45).

1412. INTERMEDIATE APPROACH SEGMENT. Criteria for the intermediate approach segment are contained in Chapter 2, Section 4. See Figures 44 and 45.

1413. FINAL APPROACH SEGMENT. The final approach shall be made only "TOWARD" the facility, because of system characteristics. The final approach segment begins at the final approach fix and ends at the missed approach point.

a. Alignment. The alignment of the final approach course with the runway centerline determines whether a straight–in or circling–only approach may be established.

(1) **Straight-in.** The angle of convergence of the final approach course and the extended runway centerline shall not exceed 30°. The final approach course should be aligned to intersect the extended runway centerline 3,000 feet outward from the runway threshold. When an operational advantage can be achieved, this point of intersection may be established at any point between the threshold and a point 5,200 feet outward from the threshold. Also, where an operational advantage can be achieved, a final approach course which does not intersect the runway centerline, or which intersects it at a distance greater than 5,200 feet from the threshold, may be established, provided that such a course lies within 500 feet laterally of the extended runway centerline at a point 3,000 feet outward from the runway threshold. See Figure 48.

(2) **Circling Approach.** When the final approach course alignment does not meet the criteria for a straight–in landing, only a circling approach shall be authorized, and the course alignment should be made to the center of the landing area. When an operational advantage can be achieved, the final approach course may be aligned to any portion of the usable landing surface. See Figure 49.

b. Area. The area considered for obstacle clearance in the final approach segment starts at the final approach fix (FAF) and ends at, or abeam, the runway threshold. It is a portion of a 10-mile-long trapezoid which is centered longitudinally on the final approach course. See Figure 14-1. For 6° course width facilities, it is 1,000 feet wide at, or abeam, the runway threshold and expands uniformly to 19,228 feet at 10 miles from the threshold. For 12° course width facilities, it is 2,800 feet wide at, or abeam, the runway threshold and expands uniformly to a width of 21,028 feet at 10 miles from the threshold. For course widths between 6° and 12°, the area considered for obstacle clearance may be extrapolated from the 6° and 12° figures to the next intermediate whole degree. For example, the width of the obstacle clearance area for a 9° course width would start at 1,900 feet and expand to 20,148 feet. The OPTIMUM length of the final approach segment is 5 miles. The MAXIMUM length is 10 miles. The MINIMUM length of the final approach segment shall provide adequate distance for an aircraft to make the required descent, and to regain course alignment when a turn is required over the facility. Table 14 shall be used to determine the minimum length needed to regain the course. *

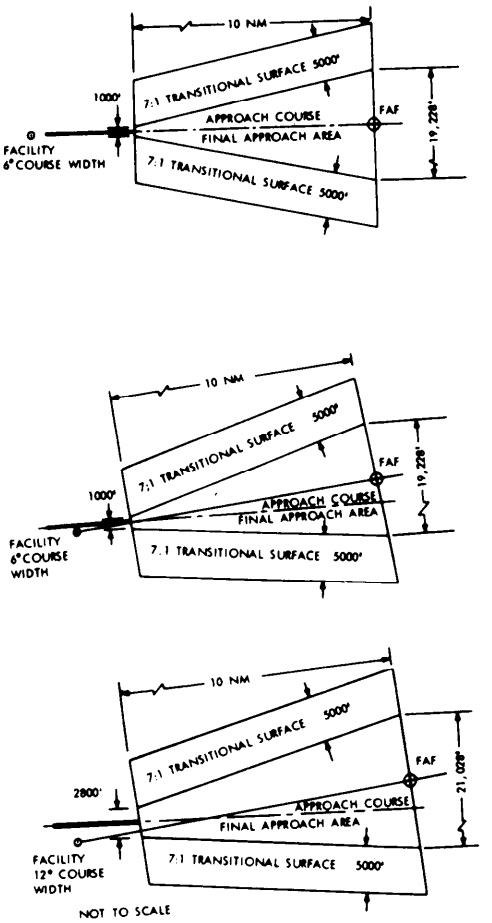

Figure 14–1. FINAL APPROACH AREAS WITH FAF.

c. Transitional Surfaces. Transitional surfaces are inclined planes with a slope of 7:1 which extend upward and outward 5,000 feet from the edge of the final approach area. The transitional surfaces begin at a height no less than 250 feet below the MDA.

d. Obstacle Clearance.

(1) **Straight-in Landing.** The minimum obstacle clearance in the final approach area shall be 250 feet. In addition, the MDA established for the final approach area shall assure that no obstacles penetrate the transitional surfaces.

(2) **Circling Approach.** In addition to the minimum requirements specified in paragraph 1413a(2), obstacle clearance in the circling area shall be as prescribed in Chapter 2, Section 6.

e. Descent Gradient. Criteria for descent gradient are specified in paragraph 513d.

f. Use of Fixes. Criteria for the use of radio fixes are contained in Chapter 2, Section 2.

g. Minimum Descent Altitudes. Criteria for determining the MDA are contained in Chapter 3, Section 2.

1414. MISSED APPROACH SEGMENT. Criteria for the missed approach segment are contained in Chapter 2, Section 7. For SDF procedures, the missed approach point is a point on the final approach course which is NOT farther from the final approach fix than the runway threshold (first usable portion of the landing area for circling). The missed approach surface shall commence over the missed approach point at the required height. See paragraph 274, missed approach obstacle clearance.

1415. BACK COURSE PROCEDURES. Back course SDF procedures may be developed using these criteria except that the beginning point of the final approach obstacle clearance trapezoid is at the facility.

1416.–1499. RESERVED.